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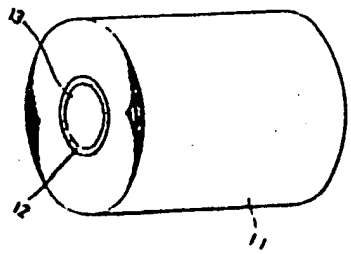
(54) Core for toilet paper roll.

(57) A core (12) for a toilet paper roll (11) having a deodorant function in which an internal surface (13) of the core (12) with paper (11) wound therearound exhibits a deodorant effect. A material forming the internal circumferential surface (13) of the scroll (12) is coated or impregnated with a deodorant (13) to give a deodorant function to the inside (13) of the core (12), whereby the deodorant (13) is brought into contact with the air to eliminate unpleasant odours in a toilet.



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CORE FOR TOILET PAPER ROLL

The present invention relates to a core for toilet paper formed into a roll, in particular to a core of which the internal circumferential surface has a deodorant function.

In general, since unpleasant odours tend to be generated in a toilet, it is necessary to take measures to deodorize the atmosphere.

To this end, there has been proposed a toilet paper role, in which paper is wound around an external circumferential surface of a tubular core, usually made by winding strips of stout paper or cardboard, and the inside of the core is filled with activated carbon to impact a deodorant function.

Such a toilet paper roll has an advantage in that it is not necessary to place a separate deodorant device in a toilet. On the other hand, it has a disadvantage in that since activated carbon is used, malodorous substances adsorbed by activated carbon may be released again from activated carbon as the toilet paper is rotated, thus reducing the deodorant effect.

Furthermore the use of activated carbon leads to increased expense and the deodorant effect is not proportional to the frequency with which the toilet is used.

The present invention consists in a core for a toilet paper roll in which a deodorant substance is given to an internal circumferential surface of the core, with paper wound around an external surface thereof.

The core of the present invention does not release adsorbed substances into an air, and can thus

be made superior in deodorant effect to the activated carbon core. It can also be made economically, and has an effect which is proportional to the frequency with which a toilet is used.

The accompanying drawing is a perspective view showing a toilet paper using a scroll acording to the present invention therein.

Referring now to the drawing, a roll of toilet paper 11 is wound around an external circumferential surface of a tubular scroll 12 as a core, said scroll 12 having a deodorant function on its internal cylindrical surface thereof.

Said scroll 12 is formed from a plurality of pieces of paper by spirally winding them in axially staggered layers and the deodorant function is imparted by coating or impregnating a material forming the internal circumferential portion of the scroll 12 with a deodorant 13.

Since said scroll 12 is not brought into contact with an air excepting the internal circumferential surface thereof when used in the toilet paper 11, it is not necessary to give a deodorant function to portions other than the internal circumferential surface of the scroll 12.

One material which may be used for the deodorant 13 is a compound obtained from ferrous sulfate and L-ascorbic acid. This deodorant 13 reacts particularly with strong smelling substances such as ammonia and hydrogen sulfide, existing in the toilet in great quantities. Ammonia of a volume about 100 times that adsorbed by activated carbon can be removed by the above compounds after one hour from the start of operation. Thus, this deodorant 13 is remarkably effective.

Accordingly, a deodorant paper having the area of the inner surface of scroll 12, for example 136 cm^2, can exhibit an effect sufficient for the deodorization of a toilet having a volume of about 4 m^3.

The deodorant 13 can be applied to the internal circumferential surface of the scroll 12 in various ways, including a method in which the internal circumferential surface of the scroll 12 is formed of paper whose internal circumferential exposed surface is coated with the deodorant 13. In another method, said paper is impregnated with the deodorant 13, and in another the internal circumferential surface of the fabricated scroll 12 is itself directly coated with the deodorant 13, in a further method the internal circumferential surface of the scroll 12 is formed of a material other than a paper, such as a film, coated or impregnated with the deodorant 13.

If the material forming the internal circumferential surface of the scroll 12 is coated or impregnated with the deodorant 13, as above described, the scroll 12 having the deodorant function can be manufactured without radically changing the manufacturing process, with consequent cost advantages. In addition, the adoption of this means of coating the deodorant 13 avoids the need for additional adhesives, which might come into contact with the deodorant and adversely affect its deodorant properties.

With the roll 11 formed by winding the paper around the external circumferential surface of the scroll 12 having said construction, the scroll 12 is open at both ends thereof when used and the roll 11 is rotatably mounted on a holder by means of an idle shaft passing through the scroll 12, whereby air circulating through the scroll 12 is brought into contact with the

deodorant 13 to remove unpleasant odours.

Besides, the scrcll 12 is rotated when the paper is used, whereby substances on the internal circumferential surface of the scroll 12 which have been altered by a chemical reaction are scraped by means of the shaft of the holder to expose the non-reacted surface of the deodorant 13. Thus, the strong deodorant effect can be always maintained.

Furthermore, since the rotational motion of the scroll 12 is not a true circle, an appropriate flow of air passes through the scroll 12, whereby odour-laden air is introduced into an inside of the scroll 12 to promote the deodorant effect.

Accordingly, not only is a strong deodorant effect can be maintained until the paper is used up but also the toilet paper roll can be manufactured economically using conventional facilities.

It goes without saying that an anti-odorant can be used in place of said deodorant.

CLAIMS

1. A core for a toilet paper roll in which a deodorant substance (13) is given to an internal circumferential surface of the core (12) with paper (11) wound around an external surface thereof.

2. A core for a toilet paper roll as set forth in claim 1, in which the deodorant effect is imparted by applying a paper coated with the deodorant (13) the internal circumferential surface of the scroll (12).

3. A core for a toilet paper roll as set forth in claim 1, in which the deodorant effect is imparted by applying a paper impregnated with the deodorant in the formation of the internal circumferential surface of the scroll (12).

4. A core for a toilet paper roll as set forth in claim 1, in which a material other than paper is coated or impregnated with the deodorant (13).

5. A core for a toilet paper roll as set forth in claim 1, in which the deodorant effect is imparted by directly coating the internal circumferential surface of the scroll (12) with the deodorant (13).

6. A core for a toilet paper roll as set forth in any preceding claim, in which the deodorant is a compound obtained from ferrous sulfate and ascorbic acid.

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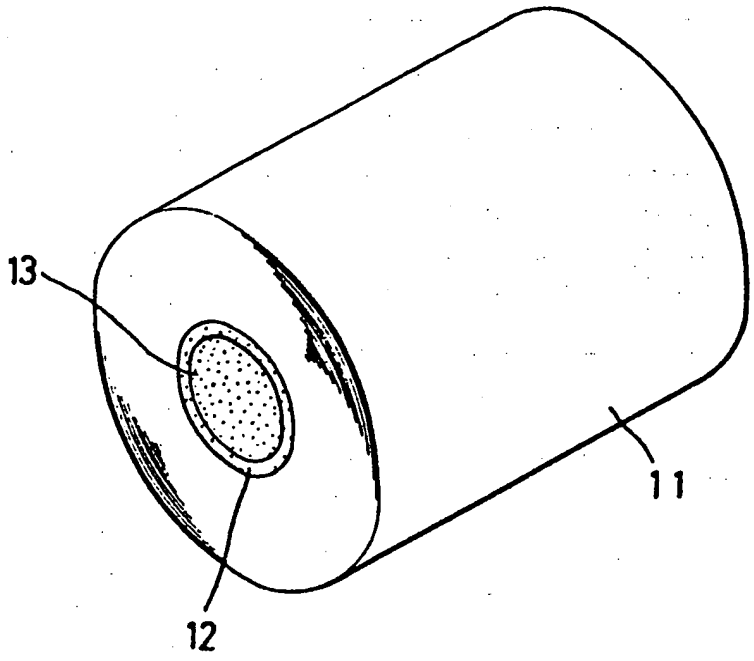

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EUROPEAN SEARCH REPORT

Application number

DOCUMENTS CONSIDERED TO BE RELEVANT

EP 87300820.5

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	DE - A1 - 2 755 332 (FELDMÜHLE) * Fig. 1; page 8, 1st,2nd paragraph * --	1,4	A 47 K 10/16
X	CH - A - 182 676 (METAUX-BLANCS) * Fig. 2; page 2, lines 24-27 * --	1,5	
X	AU - B - 21 010/83 (COSCO) * Fig. 7; page 8, lines 19-23 * ----	1,5	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

A 47 K 10/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	07-04-1987	KNAUER

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